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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,532	12/30/2004	Jean-Philippe Borgoltz	263673US2XPCT	9528
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
ELVE, MARIA ALEXANDRA				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
11/28/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/518,532

Applicant(s)

BORGOLTZ ET AL.

Examiner

M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-15 & 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky et al. (USPN 6,489,985) in view of Tomita et al. (USPN 5,369,493).

Brodsky et al. discloses a laser marking system and method. YAG (1064 nm) and CO₂ lasers may be used. A computer(s) controls the X and Y galvanometer mirror devices. These are fast recovery galvanometer mirrors. Mirrors have a wide range of motion and have the ability to be removed (retracted) from the system. The optical output beam from the laser source is collimated and then focused by the respective spherical type of lenses of lens set for directing the beam. The workpiece may be positioned on a conveyor system, which moves a series of workpieces. The working field of the scanner at the image plane may be a square or rectangular that may be varied in size on a side from about 60 nm to about 180 nm depending on the chosen flat field lens. Brodsky et al. discloses a computer which is used in providing and using coordinate information. In addition, software and program are presented with the apparatus.

Brodsky et al. does not teach the use of narrow and wide field cameras.

Tomita et al. discloses an apparatus for transporting electronic components. Imaging and moving the components, requires the use of a wide and narrow field camera. The cameras may be use to check position of components of differing size. The narrow field camera detects small components and the wide field detects large components. Tomita et al. discloses an imaging (camera) apparatus which detects and positions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use both a wide and a narrow field camera, as taught by Tomita et al. in the Brodsky et al. system because it ensures that all workpieces are properly observed and processed.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brodsky et al. and Tomita et al., as stated above and further in view of Chiba et al. (USPAP 2001/0014543A1).

Brodsky et al. and Tomita et al. do not teach the use of reactive gas.

Chiba et al. discloses a semiconductor wafer laser marking system. One of the processing steps involves the use of a reactive gas mixture to enhance crystalline growth on the wafer.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use reactive gas, as taught by Chiba et al. in the Brodsky et al. and Tomita et al. system because it is a standard wafer processing step.

Response to Arguments

Applicant's arguments filed 9/12/08 have been fully considered but they are not persuasive.

Applicant argues that Tomita et al. describes that only one of the two imaging devices may be used. The examiner respectfully disagrees because applicant is relying on a specific embodiment in figure 12. Tomita et al. discloses:

An arrangement which combines the advantages of the embodiments of FIGS. 11 and 12 is shown in FIG. 14 wherein a second imaging apparatus 47, and a beam splitter 48 are provided with the second imaging apparatus (camera) 47 observing the electronic component 4 via the beam splitter 48 and the first optical component 8, while the first imaging apparatus (camera) 6 observes the electronic component 4 via the optical component 23, the beam splitter 48, and the first optical component 8. Thus, the **controller 12B** may select the appropriate imaging apparatus 6, 47 in dependence upon the size of the electronic component 4 without any physical movement of the optical components 8, 23 or beam splitter 48, **since the beam splitter 48 permits an image of the electronic component 4 to be generated simultaneously at the first and second imaging apparatuses 6, 47.** Therefore, the embodiment of FIG. 14 has the advantage that, independent of the size of the electronic component 4, its position relative to the nozzle 3 may be determined rapidly because the **controller 12a** will select only the appropriate signals from the first and second imaging apparatuses 6, 47 for further processing. (col. 9, lines 64-68 & col. 10, lines 1-17)

Imaging apparatuses 6 & 47 may be cameras as stated by Tomita et al.

Thus the apparatus, as taught by Tomita et al. teaches the use of two cameras (6 & 47) simultaneously.

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Applicant argues that Tomita et al. does not teach the use of two cameras and a computer. The examiner respectfully disagrees because a controller (computer) is taught, see above prior art paragraph. In addition, the use of two cameras has been previously discussed. Furthermore, applicant's claims do not state that an image must be superimposed nor do applicant's claims state that both cameras must be simultaneously used.

Applicant argues that Tomita et al. does not teach a wide field and narrow field camera. The examiner respectfully disagrees, because Tomita et al. discloses:

In accordance with further features of the invention, a second imaging apparatus, such as a camera, may be provided with the first camera having a **narrow field of view** and the other camera having a **wide field of view** thereby providing a number of possibilities. First, the two imaging apparatuses, for example, cameras, may be used to check the position of components of different sizes, so that the imaging apparatus with a **narrow field of view** detects small components where high precision is needed, and the imaging apparatus with a **wide field of view** detects large components. In this case, the imaging apparatus with the wide field of view may be on the head or on the base of the apparatus. If, however, the imaging apparatus with a wide field of view is positioned on the head, it could alternatively be used to detect the point to which the component on the head is to be moved, such as the printed circuit board. (col. 3, lines 20-36)

However, unlike the previous embodiments, a second imaging device (camera) 42 is positioned next to the conveyor 13 which supports the printed circuit board 5. The imaging device 42 may be the same as the conventional imaging apparatus in camera 2 of FIG. 1. However, as can be seen from FIG. 11, the two imaging apparatus 6 and 42 are connected to a common controller 12A, which enables either or both of these imaging apparatuses 6, 42 to observe to electronic component 4. Preferably, the first imaging apparatus 6 has a **narrow field of view**, and the second imaging

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apparatus 42 has a **wide field of view**. Then, if a small electronic component 4 is picked up by the nozzle 3, a detailed picture of the electronic component may be obtained using the imaging apparatus 6, which views the electronic component 4 via the optical components 8 and 23. (col. 8, lines 9-25)

In the embodiment of FIG. 11, the imaging apparatus (camera) 6 with a **narrow field of view** is mounted on the head 1b, and the imaging apparatus 42 with a **wide field of view** is mounted on the base 100. However, it is also possible for both imaging apparatuses 6, 42 to be mounted on the head 1b, as shown in FIG. 12. (col. 8, lines 63-68)

In FIG. 12, if the electronic component 4 is small, the detection of its position is as in the previous embodiments. Thus, the imaging apparatus 6 detects the location of the electronic component 4 on the nozzle 3, via the optical components 8 and 23. If, however, the electronic component 4 is too large to be observed by the imaging apparatus 6 (assuming that imaging apparatus has a **narrow field of view**), then the optical component 8 is rotated about an axis in its plane, so that it turns through substantially 90° in a counter-clockwise direction in FIG. 12. When the optical component 8 is in that position, the second imaging apparatus 43 may observe the position of the component 4 on the nozzle 3 via the third optical component 44 and the first optical component 8. If the second imaging apparatus 43 has a **wide field of view**, large components may be observed. When the position of the electronic component 4 on the nozzle 3 has been observed by either the first or second imaging apparatuses 6, 43, then the optical component 8 may be moved linearly in its plane, along rail 22, so that it is clear of the axis of the nozzle 3, and the electronic component 4 may be lowered onto a printed circuit board 5. (col. 9, lines 9-31)

Applicant argues that Brodsky and/or Tomita do not disclose coordinates.

The examiner respectfully disagrees because Brodsky et al. discloses: a computer which is used in providing and using coordinate information. In

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addition, software and program are presented with the apparatus. Tomita et al. discloses: an imaging (camera) apparatus which detects and positions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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November 23, 2008.

/M. Alexandra Elve/
Primary Examiner, Art Unit 3742